

Sensitivity of Regional and State Nonfarm Wages and Salaries to the National Business Cycle, 1980:I-1981:III

AN article in the May 1980 SURVEY OF CURRENT BUSINESS measured and explained differences among regions and among States in the change in quarterly nonfarm wage and salary disbursements (payrolls) during postwar national business cycles prior to 1980. Using data through the third quarter of 1981, this article updates the findings in the May 1980 article.

During the five quarters of business cycle expansion from 1980:II to 1981:III, the mean quarterly percent change (at an annual rate) in nonfarm payrolls in the Nation was 10.1 percent, and during the one-quarter recession from 1980:I to 1980:II, the mean quarterly percent change was 1.6 percent (also at an annual rate). The difference between the two percent changes—8.5 percentage points—is called the "cyclical swing." (See Technical Note to the May 1980 article.) The recession is dated from a peak in real GNP in 1980:I to a trough in real GNP in 1980:II. The expansion is dated from the trough to 1981:III, the last quarter of the three-

quarter plateau in real GNP preceding the sharp fourth-quarter decline.

Column 3 of table 1 shows the national cyclical swing in nonfarm payrolls by industry. Durables manufacturing (in particular, iron and steel, lumber, and motor vehicles) and construction (in particular, residential) had the largest cyclical swings, and the finance group, State and local government, Federal Government, and services had the smallest swings. Column 4 shows the percent of total nonfarm payrolls accounted for by each industry—hereafter called the "weight." (The weights are from the May 1980 article.)

Table 2 (column 3) shows the national cyclical swing in nonfarm payrolls by region. The Great Lakes and Plains regions had the largest cyclical swings, mainly because of large swings in durables manufacturing and construction. The Rocky Mountain region had the smallest cyclical swing, because of small swings in most private nonfarm industries. In both the 1980-81 cycle and the six

preceding postwar cycles combined (1948-80), the cyclical swing in nonfarm payrolls was above the national average in the Great Lakes region and below the national average in the Rocky Mountain, Southwest, New England, Mideast, and Far West regions. In contrast, in the Plains region, the cyclical swing was above the average in the 1980-81 cycle and below the average in the six preceding cycles combined, and in the Southeast, the cyclical swing was below the average in the 1980-81 cycle and above the average in the six preceding cycles combined. Discussions of the cyclical swings in nonfarm payrolls in the 1980-81 cycle and the factors that underlie them, for each of the eight BEA regions, follow. The regional swings are discussed in descending order (see table 3).

In the Great Lakes region, the above-average cyclical swing in nonfarm payrolls was mainly accounted for by durables manufacturing. Both the swing in durables manufacturing

Table 1.—Cyclical Swing in Nonfarm Payrolls by Industry, 1980:I-1981:III, United States

	Rank ¹	Mean quarterly percent change, at annual rate		Cyclical swing 1980:I-1981:III	Percent of total nonfarm payrolls ²
		Expansion 1980:II-1981:III	Recession 1980:I-1980:II		
		(1)	(2)	(3)	(4)
Total nonfarm payrolls.....		10.1	1.6	8.5	100.0
Durables manufacturing.....	1	11.5	-10.0	21.5	17.7
Construction.....	2	6.1	-10.4	16.6	8.9
Wholesale and retail trade.....	3	10.3	0	10.3	17.1
Mining.....	4	21.8	12.0	9.8	1.9
Nondurables manufacturing.....	5	10.4	3.2	7.2	9.6
Transportation, communication, and public utilities.....	6	8.6	2.0	6.6	7.0
Services.....	7	12.6	9.2	3.4	15.8
Federal Government.....	8	9.3	6.0	3.3	5.2
State and local government.....	9	6.2	6.0	.2	12.4
Finance, insurance, and real estate.....	10	11.4	12.8	-1.4	5.6

1. Column does not sum to 100 percent because other nonfarm payrolls, which consist of payrolls in agricultural services, forestry, and fisheries and payrolls of U.S. residents working for international organizations, are not shown separately.
2. Industries are ranked by the cyclical swing (column 3).

Table 2.—Cyclical Swing in Nonfarm Payrolls, 1980:I-1981:III, United States and BEA Regions

	Rank ¹	Mean quarterly percent change, at annual rate		Cyclical swing 1980:I-1981:III
		Expansion 1980:II-1981:III	Recession 1980:I-1980:II	
		(1)	(2)	(3)
United States.....		10.1	1.6	8.5
Great Lakes.....	1	10.2	-5.2	15.4
Plains.....	2	8.4	-2.4	10.8
Far West.....	3	8.5	1.6	7.0
Mideast.....	4	8.0	2.4	5.6
New England.....	5	8.0	2.4	5.6
Southwest.....	6	13.8	7.6	6.2
Southeast.....	7	10.9	5.2	5.7
Rocky Mountain.....	8	10.6	8.8	1.8

1. Regions are ranked by the cyclical swing (column 3).

Table 3.—Cyclical Swing in Nonfarm Payrolls, by Industry, 1980:I–1981:III, United States and BEA Regions

	Total	Durables manufacturing	Construction	Wholesale and retail trade	Mining	Nondurables manufacturing	Transportation, communication, and public utilities	Services	Federal Government	State and local government	Finance, insurance, and real estate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
United States.....	8.5	21.5	16.5	10.3	9.8	7.2	6.6	3.4	3.3	0.2	-1.4
Great Lakes.....	15.4	37.4	21.9	11.4	15.0	11.3	10.6	3.4	-5.7	-1	-5.6
Plains.....	10.8	25.6	40.5	13.0	25.8	-2.3	6.6	8.6	-5.4	-1.2	-4.6
Far West.....	7.9	13.6	4.7	12.9	-6.4	8.1	16.6	6.2	-2.0	-1.4	6.2
Midwest.....	6.6	14.9	21.1	10.3	57.0	11.8	-2	2.9	-1.1	-1.8	-1.8
New England.....	6.6	3.6	30.2	9.8	30.4	11.1	1.4	3.9	9.8	-2.6	14.2
Southwest.....	6.2	8.2	17.7	10.5	2.4	-2.3	5.8	-1.0	13.6	4.7	-3.9
Southeast.....	5.7	20.3	4.9	6.3	15.4	5.9	4.9	1.0	7.2	1.4	-8.2
Rocky Mountain.....	1.8	1.7	11.8	3.5	-5	-20.1	1.8	-2.6	7.8	5.6	-4.3

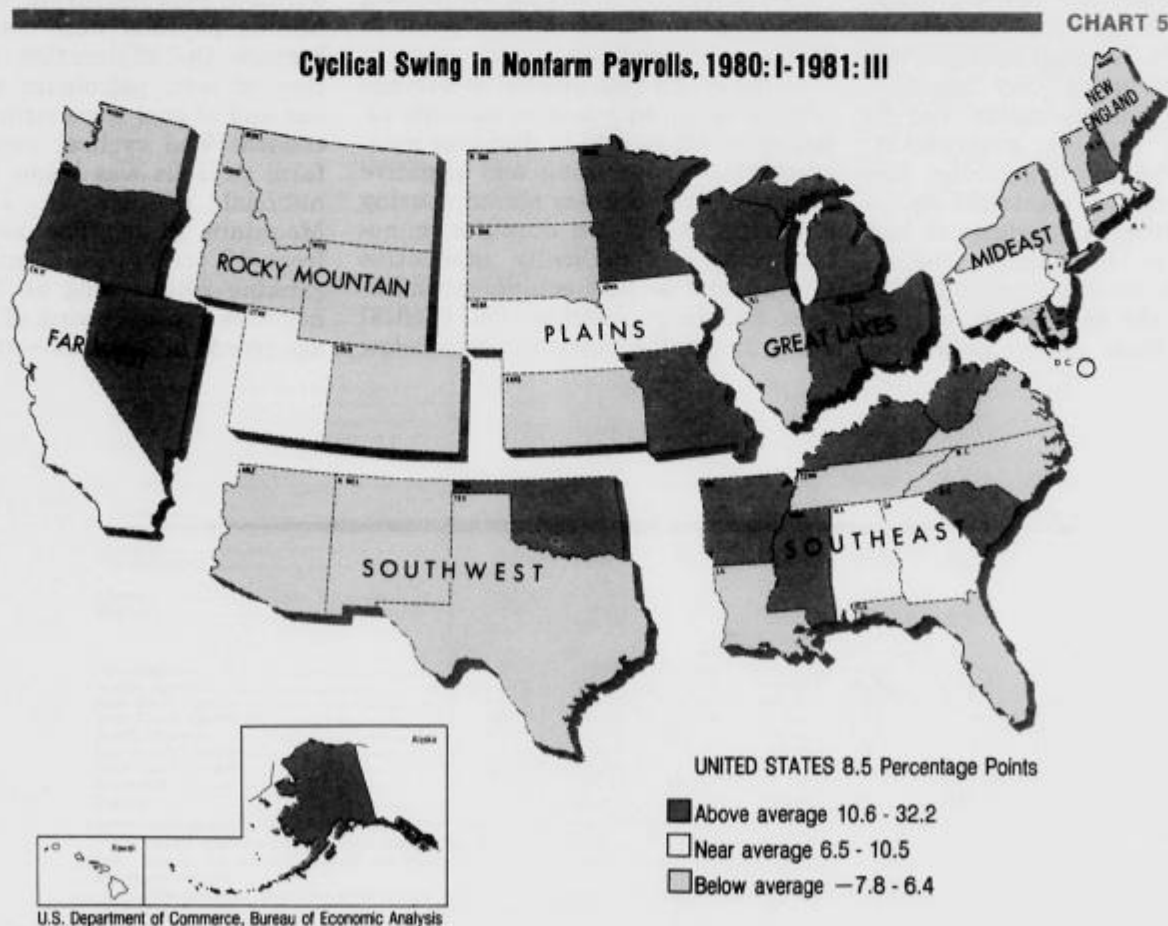
Note.—The 10 major industries are ranked in descending order by their cyclical swings in the Nation (columns 2-11). The regions are ranked in descending order by the cyclical swing in total nonfarm payrolls (column 1).

and its weight were larger than in any other region. Within durables manufacturing in the Great Lakes region, iron and steel, and motor vehicles had large weights and were among the Nation's most cyclically sensitive industries. Large swings in construction, nondurables manufacturing, and the transportation group also contributed to the region's large all-industry swing. The cyclical swing in nonfarm payrolls was above the

national average in each Great Lakes State except Illinois (chart 5). The swing ranged from 32.2 percentage points in Michigan—ranking 1st among all States—to a negative swing (that is, the mean quarterly percent change was larger in the recession than in the expansion) of 0.6 percentage point in Illinois—ranking 44th.

In the Plains region, the above-average cyclical swing in nonfarm payrolls was mainly accounted for by

durables manufacturing, construction, trade, and services. Swings in these industries were large, in part because of fluctuations in agricultural production. The swing in durables manufacturing was mainly in the farm equipment and motor vehicles industries. Swings in construction, trade, and services were larger than in any other region. The cyclical swing in nonfarm payrolls was above or near the national average in four of the seven



Plains States. The swing ranged from 18.9 percentage points in Minnesota—ranking 8th among all States—to a negative swing of 4.0 percentage points in South Dakota—ranking 46th.

In the Far West, the below-average cyclical swing in nonfarm payrolls reflected relatively small swings in durables manufacturing and construction, and a negative swing in government. Within durables manufacturing, aircraft and defense equipment had large weights (mainly in Washington and California) and were among the least cyclically sensitive industries nationally. In contrast, the lumber industry (mainly in Oregon) had a large swing due to weakness in residential construction. The cyclical swing in nonfarm payrolls was below or near the national average in Washington and California and above the national average in Nevada and Oregon. The swing ranged from 19.0 percentage points in Nevada—ranking 4th among all States—to a negative cyclical swing of 5.8 percentage points in Washington—ranking 47th.

In the Mideast, the below-average cyclical swing in nonfarm payrolls reflected a relatively small swing in durables manufacturing and negative swings in the transportation and finance groups and in government. Within durables manufacturing, the cyclically insensitive electrical equipment and instruments industries had large weights in the Mideast. The cyclical swing in nonfarm payrolls was below or near the national average in each Mideast State except Delaware.

The swing ranged from 13.8 percentage points in Delaware—ranking 10th among all States—to a negative cyclical swing of 6.3 percentage points in Maryland—ranking 48th. New York City's economy was less sensitive to the 1980-81 cycle than to other recent cycles because of strength in commercial building construction and trade.

In New England, the below-average cyclical swing in nonfarm payrolls was mainly accounted for by small swings in durables manufacturing and the transportation group and a negative swing in State and local government. The swing in durables manufacturing in New England was smaller than in any other region except the Rocky Mountain, and the weight was well above the national average. Within durables manufacturing, the cyclically insensitive defense equipment and instruments industries had large weights in New England. The cyclical swing in nonfarm payrolls was below or near the national average in each New England State except New Hampshire. The swing ranged from 14.0 percentage points in New Hampshire—ranking 7th among all States—to 0.2 percentage point in Maine—ranking 42nd.

In the Southwest, the below-average cyclical swing in nonfarm payrolls reflected small swings in durables manufacturing and mining and negative swings in nondurables manufacturing and services. Within durables manufacturing, the cyclically insensitive aircraft and defense equipment industries had large weights. The cyclical swing in nonfarm payrolls was below

the national average in each Southwest State except Oklahoma. The swing ranged from 13.9 percentage points in Oklahoma—ranking 9th among all States—to 1.4 percentage points in Arizona—ranking 39th.

In the Southeast, the below-average cyclical swing in nonfarm payrolls reflected relatively small swings in construction, trade, nondurables manufacturing, the transportation group, and services. Within nondurables manufacturing, apparel and food processing had large weights in the region and small swings nationally. The cyclical swing in nonfarm payrolls was below or near the national average in 7 of the 12 Southeast States. The swing ranged from 16.5 percentage points in Arkansas—ranking 5th among all States—to a negative swing of 0.1 percentage point in Florida—ranking 43rd.

In the Rocky Mountain region, the below-average cyclical swing in nonfarm payrolls reflected swings in durables manufacturing and trade that were smaller than in any other region and negative swings in mining, nondurables manufacturing, and services. Mining payrolls were countercyclical because the exploration and production of both petroleum and natural gas and of coal were strong in the recession. The cyclical swing in nonfarm payrolls was below or near the national average in each Rocky Mountain State. The swing ranged from 8.9 percentage points in Utah—ranking 24th among all States—to a negative cyclical swing of 7.8 percentage points in Montana—ranking 50th.